DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-027879
Date Inspected: 02-Jul-2012

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1930
Location: Job Site

CWI Name:	As noted below			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: SAS OBG

Summary of Items Observed:

Quality Assurance Inspector (QA) Douglas Frey was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

12E-E2.1 (Exterior)

This QA Inspector made random observations of ABF/JV qualified welder Mike Jimenez performing Shielded Metal Arc Welding (SMAW) in the 1F flat position on 12E-E2.1 on the East Drop-In Panel on the exterior of the OBG. The welder was depositing metal forming seal passes on the edges of the joint at y+29,000mm to 31,000mm. This QA Inspector observed QC Inspector Salvador Merino verify prior to the start of the fillet weld operation, that the minimum preheat temperature as per the approved WPS was established; and afterword's verified that the welding parameters (Amps) were in accordance with ABF-WPS-D1.5-F1200A. The welder was observed utilizing E7018-H4R electrodes and this QA Inspector verified that the electrodes were recently obtained from a baking oven. QC was observed measuring the inter-pass temperatures by employing an infra-red temperature gun as well as monitoring the welding and the parameters. It was noted that the welder was drawing amperage of 127 utilizing 3.2mm electrodes. On a subsequent observation, the welder was observed continuing work on the B-U2a Complete penetration Joint (CJP) and was employing the same routine to clean the passes. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work is in progress and appeared to be in general conformance with the contract specifications.

12E Corner Drop-In Panel (Interior)

This QA Inspector randomly conducted fit up and measurement of the 12E Corner Drop-In Panel on the interior of the OBG. QC Inspector Salvador Merino utilized a Bridge Cam gauge to measure the planar offset of the 12E/13E–C1.1. This QA Inspector observed that the planar offset varied from 3mm 6mm along the length of the joints 12E/13E-B1, 12E/13E-C1.1, PP111.1-C1 and 12E-E2.1-C1. (See photos below) This QA Inspector generated an Incident Report on this date and notified METS QA Lead Inspector Danny Reyes for review and disposition of the report due to the non-compliance with AWS D1.5-2002 - Section 3.3 - Assembly 3.3.3 Parts to be joined by groove welds shall be carefully aligned. Where the parts are effectively restrained against bending due to eccentricity in alignment, the offset from theoretical alignment shall not exceed 10 percent of the thickness of the thinner part joined, but in no case shall be more than 3 mm [118 in.]. In correcting misalignment in such cases, the parts shall not be drawn in to a greater slope than 12 mm [U2 in.] in 300 mm [12 in.]. Measurement of offset shall be based upon the centerline of parts unless otherwise shown on the drawings.

12E-E2.1-y+29,000mm to 14,000mm (Exterior)

This QA Inspector randomly observed Submerged Arc Welding (SAW) of the Corner Drop-In Plate at 12E-E2.1 on the exterior of the OBG. This QA Inspector observed heat induction blankets to provide pre-heat for the single bevel joint and verified the temperature was the required minimum of 150° F. It was also noted that the remote oven for the ESAB EN 760 Flux was in the on position with the dial set at 250° F as ABF welding personnel employed a flux recycling vacuum hose to empty the feeder hopper of the SAW unit. This QA Inspector observed the removal of the electrode spool which was discarded and replaced with a new F7A2-EM12KH8 electrode spool. QC Inspector Salvador Merino measured the parameters for amperage, volts, travel speed and the heat input as ABF welder Todd Jackson #4639 adjusted the controls on the Lincoln track mounted wire feeder. Upon approval for conformity with WPS-D1.5-4042B-1, the welder commenced welding operations on the joint in the 1G flat position. On a subsequent observation, this QA Inspector observed ABF welding personnel recycle the flux utilizing a vacuum hose and cleaning the edge of the work with a chipping hammer between passes. The welder was observed adjusting the path of the feeder prior to each consecutive pass during the ongoing process and inspected each completed pass for indications and workmanship. QC was present to monitor the welding and the parameters so they remain within the requirements of the WPS. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work was in process and appeared to be in general conformance with the contract specifications.

Summary of Conversations:

Conversations were relevant to the specific locations.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910 , who represents the Office of Structural Materials for your project.

Inspected By:	Frey,Doug	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer